1086-11-248 **D. R. Heath-Brown** and **Lillian B. Pierce*** (lillian.pierce@maths.ox.ac.uk).

Simultaneous Prime Values of Pairs of Quadratic Forms.

We prove that under a certain geometric assumption, any two quadratic forms with integer coefficients simultaneously attain values infinitely often in any specified subset of the integers, as long as the elements of the set satisfy certain local conditions, and the set is not too sparse. The sparsity threshold is dependent upon the number of variables in the quadratic forms, as well as on the forms themselves. In particular, we show that 5 variables suffice in the case where the target set is the prime numbers, so that any two quadratic forms in 5 variables or more, which satisfy the relevant geometric condition, simultaneously attain prime values infinitely often. The proof proceeds via an application of the circle method, and in particular pioneers a two-dimensional version of a Kloosterman refinement. (Received August 13, 2012)